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ABSTRACT

This report describes the conceptualization, development, and evaluation of a handbook (CE 016 432) for project directors responsible for implementing career education products. Divided into five chapters, this document contains a chronological review of development activities, including the use of the prototype version in schools. Chapter 1 explains the need for the handbook, the need for programmatic research findings, and the specifications for the handbook. In chapter 2 both the formative and summative engineering in the development of the handbook is reviewed. Chapter 3 describes the evaluation activities, and chapter 4 describes the product utilization stage which included program monitoring; development of a technical plan; conduct of market analysis; development of production and packaging specifications; development of promotion, distribution, and service specifications; preparation of a product utilization plan; and conduct of production, promotion, distribution, and service activities. Finally, in chapter 5 the findings are summarized and claims and recommendations for the handbook are presented. Appended materials comprise half of this document, including a list of persons contributing to the development of the handbook, summative evaluation materials, development materials, and formative evaluation settings and results. (BM)

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FINAL REPORT

Contract No. NE-C-00-3-0080

DEVELOPMENT OF THE CAREER EDUCATION PRODUCT INSTALLATION HANDBOOK

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January 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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THE CENTER MISSION STATEMENT

The Center for Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning and preparation. The Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOREWORD

This report describes the conceptualization, development, and evaluation of a handbook for career education project directors. It contains a chronological review of development activities including the use of the prototype version in schools. The authors are indebted to two groups of career education project directors: (1) those using the prototype version and (2) those participating in the summative evaluation of the final product. This latter group was randomly selected from lists of project directors from the states. The project directors are listed in Appendix A.

Appreciation is executed to Alan Kahler, Professor of Agricultural Education at Iowa State University and Director of an Exemplary Project in Career Education, for his assistance in writing some of the test situations. We wish to acknowledge the contributions of raters of the test results. These persons are Mary B. Kievit, formerly Chairperson of the Department of Vocational-Technical Education in the Graduate School of Education at the Rutgers University; Clarence Kron, Dean of the School of Education at the University of Texas at Odessa; and Charles Ryan, Professor, Department of Guidance and Counseling, University of Maine. Respectively, they provided the technical expertise in innovation/diffusion, educational administration, and career education so necessary for evaluating the quality of implementation strategies.

The development of a handbook for implementing career education products represents the combined efforts of the sponsor, the Education and Work Group at the National Institute of Education; the developers, project staff at the Center for Vocational Education; and professionals in the field. We believe that the contents of the handbook will contribute to effective and efficient use of career education materials by students and teachers.

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CHAPTER I

INTRODUCTION

A. The Need for the Handbook

The Career Education Implementation Handbook was developed in response to a pervasive need in American education. This need was associated with the relevance of instruction to real life goals of students. The transition from school to work was not smooth for many individuals. High dropout rates were occurring in American education and much floundering from job to job was taking place as individuals searched for the best occupation to meet their individual goals.

This loss of excellence in the public school system was recognized by government officials such as Sidney P. Marland, Jr. and others who represent responsible leadership in American education. Such recognitions led to a major investment in the development of curriculum materials and other instructional aids which would foster career guidance of students in schools. Career education models in the home, in business, and in schools were developed. Concurrent with this investment of resources on the national scene, states were beginning to mandate career education priorities. Instructional materials were developed in isolated school systems and through coordinated approaches under the leadership of state education departments. The movement toward career education had gained sufficient momentum by 1974 that the U.S. Commissioner of Education, T. H. Bell (1974), estimated that almost 5,000 of the 17,000 school districts in the United States and at least six state legislatures had enacted career education legislation. Personnel, in the form of state career education coordinators, were located in at least three-fourths of the state education departments. The education amendments of 1974 (PL 93-380) contained a definitive statement on career education.

Grass roots support for career education as a vehicle for facilitating improvement in the educational systems received attention and support from many sources. The American Vocational Association published a yearbook on career education (Magisos, 1973). The National School Public Relations Association (1974) synthesized trends and policies in a publication which reviewed the need for career education and identified some of the criticisms voiced toward this movement. This statement also provided a synthesis of some of the state programs of career education.

A more specific comment on state activities in career education was provided by the Council of Chief State School Officers in a report authored by Jesser (1974). A national assessment of programs related to occupational education, Project Baseline, found it necessary to issue a publication on career education written by Worthington (1974). Following a series of mini conferences conducted by the USOE Office of Career Education a policy paper has been formulated which specifies definitions, assumptions, and tasks associated with career education. This policy paper and a series of monographs (the first one by Herr and Cramer, 1975) are being disseminated to state education agencies and local education agencies to aid them in the implementation process.

The magnitude of this career education movement has resulted in many books and related materials being written. A book by Goldhammer and Taylor (1974) described some of the parameters of the career education movement. One of Marland's most recent books (1974) describes both the processes of career education reform and examples of programs. The intensity of interest in career education programs was indicated by a publication by Rayan (1973) which indicates various sources of funds for career education programs. Most recently, a handbook of career education materials has been developed by the Educational Products Information Exchange under contract with the National Institute of Education.

The availability of such a multitude of materials in this field accents the need for an implementation system. In addition to information search and retrieval capacities, state education departments and local education agencies have developed strategies for implementing career education programs. In the early years, Swanson (1971) was addressing this implementation need:

> Perhaps the most serious problem in implementation can be described as a need for guidelines which permit local education agencies to plan a smooth and orderly entrance into career development programs and a way of anticipating the costs of doing so. Such guidelines might propose organizational and structural alternatives available to schools, personnel requirements for installing and implementing programs, space and equipment requirements for various program components and the degree to which career education may develop interchangeable parts for use within or among local education agencies. The need is for a guide to sequencing the process of installing a career education program.

The desire to build flexibility into career education implementation approaches and at the same time remain accountable for the achievement of specified objectives became evident. Implementation strategy formulation required judgments on the part of career education coordinators and local project directors.

Several sources of advice for these individuals have emerged. Models for implementing career education materials have been specified by Gross and Kaplan (1974); Shook and Morgan (1972); Davis, Dwight, Borgen (1974); the Maryland State Board of Education (1972); McClure (1975); Hoyt, Evans and Macken (1972); and Keller (1972) among others. The developers of the implementation handbook for this project reviewed these materials in an effort to determine additional implementation approaches which would be unique and effective in the installation of career education products.

B. The Need for Programmatic Research Findings

Most of the information on career education implementation practices was based on common sense and the opinions of dissemination specialists. Implementation strategies based on empirical data were practically non-existent. Some general models of implementation procedures do exist. Zaltman and Others (1973) describe a seven stage process of innovation acceptance. This description includes the work of Roger and Shoemaker (1971) and other theorists of change processes. Work by Kirkpatrick (1972) recognizes the need for definitive information and guidelines on strategy formulation. He suggests that most judgments which match target audience information with products being delivered currently are being made on the basis of intuition. This is occurring despite the investment being made in national R&D institutions such as the research centers and regional laboratories.

Rosenau, Hutchins and Hemphill (1971) in a concept paper for NIE state that strategies designed to insure awareness of products and motivation for product use may be the most difficult to engineer. However, there is very little empirical evidence as to what works best. This lack of information on how to approach prospective users of R&D product information may have been partially responsible for some of the role conflicts and difficulties experienced by education extension agents in diagnosing client problems as reported by Sieber, Louis and Metzger (1972). Undoubtedly, some of these problems could be reduced with the development of a handbook for diffusion agents. The systematic development of product installation plans for particular career education products should facilitate product utilization. Crawford, et al. (1972), have pointed out that R&D products which have been predetermined diffusion strategy tend to be accepted more quickly and with a wider distribution than those which have a *post hoc* strategy.

It was the purpose of this project, therefore, to develop a handbook which would aid project directors in the formulation of effective career education implementation strategies.

C. The Specifications for the Handbook

The development of this career education project director's handbook was contingent upon two important assumptions: (1) the availability of valid and reliable career education materials, and (2) the critical nature of the project director's role. These assumptions were critical to the statement of implementation process contained in the handbook and the identification of an appropriate user audience. Both of these assumptions were discussed in detail during the initial steering committee meeting. See the notes from the April 25-26, 1974 meeting of the steering committee in Appendix C for more information.

The initial set of specifications for the handbook were as follows:

a. The CEPIH will contain tested and reliable information.

   (1) The CEPIH will be based on research from the Diffusion program, other literature and discussion outside of the program, and input from representatives of the user population.

   (2) The CEPIH will be used in actual and simulated career education installation situations and assessed to determine the extent to which individuals use the guidelines presented and form strategies which they and others perceive as effective.

b. The CEPIH will be relevant for career education installation activities.

   (1) The CEPIH will be designed by (in part) and for project directors or persons responsible for installing career education innovation.

   (2) The CEPIH will contain a discussion and illustrative examples on how to develop and initiate an installation strategy. This strategy will be based on an assessment of the (a) characteristics of the career education product itself (e.g., content, cost, size, or resistance potential), (b) characteristics of the clients involved in the acceptance and use of the product, and (c) a matching and sequencing of selected techniques based on the above information.

   (3) The CEPIH will also contain a discussion and a series of steps on how to develop and implement

a mechanism for providing feedback, from the client or user's point of view, on the progress of the installation of a given career education product.

c. The CEPIH will be easy to use.

(1) The CEPIH will be self-instructional.

(2) The format of the CEPIH will be in the form of a handbook or reference to show project directors how to formulate an installation strategy for career education products.

(3) The CEPIH will contain a series of steps and illustrative examples to guide the consumer through the process of developing strategies for implementing career education products.

(4) The CEPIH will have readable content in that it will be free from jargon unique to any specific group of researchers or practitioners.

d. The CEPIH will be inexpensive.

(1) The CEPIH will be completely in printed form.

(2) The CEPIH will not require any resources for its use other than the intellect and ingenuity of the user.

e. The CEPIH will improve an advocate's ability to devise product installation strategies.

(1) Practitioners will have participated in the development of the CEPIH, and assessments will have been recorded concerning the ability of the handbook to improve their formulation of diffusion strategies.

(2) A laboratory simulation will have been conducted to experimentally test the effectiveness of the handbook with career education products.

A handbook with these characteristics should allow the formulation of an implementation strategy which recognizes the potential barriers to acceptance of the career education materials, establishes short range goals to be achieved in the implementation process, and identifies relevant tactics for the achievement of these goals. The terminology used both to describe the handbook and within the handbook changed during the development process.

This occurred as handbook users began to question the prescriptive, mechanical nature of some of the processes.

Discussions with field site personnel by phone and in group meetings revealed negative feelings concerning the use of the terms "product" and "installation." A softer more judgmental decision process was deemed to be desirable. Therefore, the term "implementation" was substituted for other language in the title of the handbook and throughout its contents. The self-instructional nature of the book soon came into question. Career education project directors at the summative evaluation meetings recommended the use of in-service sessions with individuals who are asked to use this book.

One of the major questions associated with the specification of the handbook focused on the prime user population. Early in the development of the project two user groups were clearly identified: (1) state coordinators of career education, and (2) local project directors. Usually the local directors were located in local school districts, however, variations in size of districts resulted in very different demands being placed on those directors in large districts compared to the smaller school districts. The question of whether or not to develop two versions of the handbook, one for state departments and one for local education agencies, was actively pursued during the development of prototype 1. Interviews with state department personnel, field site representatives, and consultants yielded information which suggested the need for only one version of the handbook. This version was to focus on change processes in such a manner as to accomodate the different demands placed on project directors located in various types of LEAs.

CHAPTER II

THE DEVELOPMENT OF THE HANDBOOK

A. Formative Engineering

The formative engineering phase of this development process emphasized a sequence of tasks which led to the construction of the final prototype of the handbook. Figure II-1 illustrates the major development activities associated with this project. The formative engineering phase extended to the development of prototype II. This phase allowed for the try-out and subsequent rejection of checklists as a means of formulating an implementation strategy. It resulted in a section of the handbook being used for workbook exercises.

1. Development of Prototype I

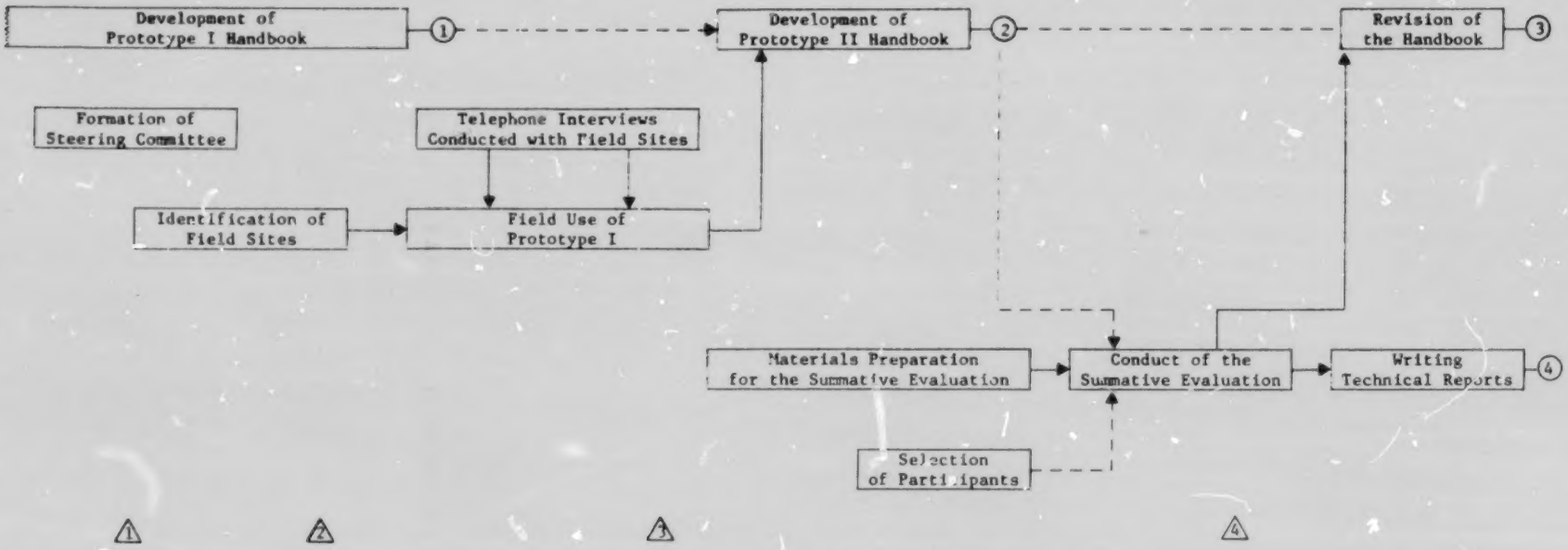
An important decision in the development of the implementation of this handbook was the utilization of reliable findings from empirical research. Two research reports developed as products from this contract were analyzed in depth for information leading to implementation processes and change tactics. These reports were:

> The Adoption of Systems Innovations in Educational Organizations: A Case Study of Operation Guidance (R&D No. 100)
>
> Perceived Effectiveness of Innovation Diffusion Tactics (R&D No. 99)

The findings from these reports as well as information from prior research and development activities in the Diffusion of Innovations Program at the Center for Vocational Education was translated into the structure and content of this handbook. Decision event 2, discussed in Chapter III of this report, related to the translation of these research findings into the handbook.

An attempt was made to glean implementation data specifically on career education. One prior Center report (R&D No. 96) and case studies written by the six LEAs associated with the development and use of model I were analyzed carefully for information. Letters were written to project directors at other sites developing career education models, two, three and four. Relevant

January 1, 1974 | January 1, 1975 | January 31, 1976



△ - Events

- April 25, 1974 — Meeting of Steering Committee
- July 8, 1974 — Revision Committee
- January 15, 1975 — Decision on Handbook Format and Number of Versions
- November 10, 1975 — Completion of Summative Evaluation Analysis

○ - Products

1. Handbook Prototype I
2. Handbook Prototype II
3. Career Education Implementation Handbook
4. Technical Report of Development

—— Constraint

□ Activity

Figure II-1. Flow Chart of Major Development Activities

information was exchanged. However, in most cases, information on installation activities was not yet available.

The publications cited in the bibliography were reviewed for details relating to implementation procedures. The general models of implementation were valuable as guidelines in formulating general steps in the formulation of an implementation strategy. The manuscripts which were specific to career education suggested unique areas of consideration for implementation strategies. For example, the need for a definitive description of career education as a concept became obvious. However, it was not until the revision of prototype I that the developers inserted specific guidelines. This was due in part to words of caution given by the steering committee.

It became necessary to define and delimit the content of this implementation handbook. Following communications with local project directors and the steering committee, the developers chose to write a handbook which would give specific suggestions leading to an implementation strategy. An attempt was made to omit materials which (1) would result in activities generally considered to be outside the scope of project director duties, and (2) would be prescribed as part of a state education agency plan for career education activities. An example of the former omission would be the inclusion of guidelines for selecting pilot sites in other school districts; an example of the latter exclusion would be guidelines establishing procedures for relating to the local program to state agencies' plans.

The critical project director role requires many judgmental decisions. It was decided by the developers to concentrate on the process of implementing career education materials. The handbook was to be viewed as a resource book available for consultation as the project directors recognized problems and barriers to the implementation process. This direction was consistent with the advice received from the steering committee meetings; it was reinforced periodically as steering committee members had the opportunity to review copies of prototype I and express their advice.

Prototype I was distributed to field sites in September of 1974. It contained almost 100 single spaced pages printed on both sides. The loose-leaf three-ring binder allowed for additional comments or records of actions taken. The handbook contained an introduction and sections on planning, implementation, and assessing the impact of installation tactics.

The prototype I handbook was supplemented with observations from the field via telephone and personal interview at the time of decision event 2 (January 1975). However, the prototype manuscript was very much in the developmental state. The format

could change, and content was being added, subtracted and substituted for existing sections of the document. The decision event on the translation of research findings posed several problems: the research findings reviewed in the programmatic reports represented in many cases observed practice, not necessarily durable solutions to persistent problems. Likewise, some of the research findings were conflicting in nature, thus posing problems for their translation into the handbook; the styles and formats differed from report to report; although information at times tended to overlap from report to report. The intent of the review was to identify key indicators of reliable knowledge which tended to subsume much of the detailed research findings.

As a result of decision event 2 several changes in the manuscript were recommended: (1) illustrations were recommended for the procedural guidelines in the book as well as the installation tactics which were identified in prototype I, (2) the developers were advised to be selective in their use of research findings for translation into the book, (3) a glossary should be placed in the front of the handbook, and (4) more items should be considered as additional tactics as the developers identify additional research findings. These recommendations as well as recommendations from the field sites and steering committee were considered in the development of the prototype II.

After the developers had incorporated many of the suggestions of the steering committee, field site representatives, and the decision event reviewer, the initial draft of prototype II was given to a revision committee. This revision consisted of four individuals who reviewed the draft in advance of a review session conducted at Columbus, Ohio. See Appendix C for a summary of the revision committee meeting. The output from this meeting was incorporated into the final draft of prototype II which was distributed to the field sites in September 1974.

2. Selection and Use of Field Sites

Steering committee members were selected for their knowledge of career education activities as well as other specialized roles related to the development of instructional products. Thus, it was logical to turn to them for advice on the selection of pilot states to aid in the development of the handbook. Several states were nominated. They were selected on the basis of geographic location, the strength of their program in career education, and willingness to become a part of this development program. State coordinators of career education in Florida, Ohio and Texas were contacted by letter and telephone. Each state was asked to identify up to nine pilot schools which would be interested in using the handbook during a six months trial period. These suggested guidelines for nominating local education agencies are contained in Appendix C.

Each local school district field site was contacted by the developer and a meeting scheduled to discuss the intentions of the project. These meetings were held in each of the states in early September with the local project director of career education attending. No money was exchanged between any educational agencies. The career education project director used the handbook for six months, responded to telephone interviews periodically, and returned a mail questionnaire evaluating prototype I at the conclusion of the try-out period. In addition, these field site career education directors helped project staff select simulation experiences which were used in the summative evaluation.

The field sites selected represented a range of conditions. They included urban school districts as well as small rural districts. Ethnic groups were represented in many of the sites. Each site had previously developed career education products for use in implementation. These products ranged from vocational guidance placement procedures to the use of specific curriculum guides for infusing career education.

Career education project directors in field sites were eager to cooperate. A total of eight site visits were conducted by project staff and thirteen phone interviews were held. One of these interviews was a conference call to the state education agencies and other sites. Specific attention was focused on the question of whether or not to develop a special version of the handbook for career education coordinators in state departments. All but one of the telephone respondents reported using the handbook during the six month period. However, most of the use seemed to take place at the beginning of the project. As time progressed, project directors became distracted with other priorities. The least experienced directors tended to use the handbook more than the experienced ones.

The planning section seemed to be of greatest value to the local directors. However, they also liked the strategies section and tended to agree with the need to record their plans. Very few of these project directors actually used the checklist, however. There appeared to be a need to change the format of the planning section.

The directors were asked to identify any other materials similar to the handbook which they found useful. Some were able to recall some titles or the name of an author. But in general, very few knew known resource books were identified. The telephone interviews were only moderately helpful in obtaining suggestions for changes in the handbook. This was true because the developers were unable to sustain a continuing dialogue with the field site project directors over time. Also, the developers

had a lack of knowledge about the unique implementation problems occurring on sites. Whenever possible, project directors were alerted in advance to the telephone calls. This seemed to help them organize their thoughts for the questions.

In general, the responses on the mailed questionnaires were more helpful in revising the content of the handbook than the telephone interviews. Eighteen of the twenty LEA field sites responded. The results of this formative evaluation are contained in Appendix D. They tend to indicate that a wide variety of persons are likely to be able to benefit from receiving the handbook. However, administrators, local supervisors, and curriculum developers are most likely to obtain maximum benefit. The information in all sections of the handbook was considered to be useful by almost all respondents. It was easy to find and contained no serious social biases. The terminology was easily understood by most people and the organization of the material was meaningful. They said the handbook encouraged active planning of installation strategies although this section needed improvement.

The respondents to this formative evaluation were mostly between 30 and 45 years of age with a masters degree or above, assigned primarily to administrative or supervisory duties. Most of the project directors had spent six years or less in assignments similar to their present one. These individuals were able to bring their years of experience to bear on problems associated with developing the implementation handbook. Their suggestions were written into the revised prototype and reviewed by the revision committee.

B. Summative Engineering

This phase of the product development compares the revised handbook prototype with materials already on the market. The book by Ronald Havelock entitled, "The Change Agent's Guide to Innovation in Education" was selected because it has been widely accepted throughout the nation. Dr. Havelock is a noted authority in this area. The content of the book parallels the process steps developed in the career education implementation handbook. However, the Havelock book is not specific to career education.

The individuals attending the summative evaluation meetings were randomly selected from throughout the nation. The details of this selection are contained in Chapter III. Most of the individuals were career education project directors in local education agencies. However, some were operating on special projects at the state and district levels.

An audio-visual presentation was shared with this group of local project directors for the purpose of obtaining their suggestions for improvement. This presentation was designed by

the developers to aid in the in-service orientation of persons using the implementation handbook. However, care was taken during the summative evaluation that this audio-visual presentation not influence the results of the experiment.

Suggestions for changes in the revised prototype were solicited from participants in the summative evaluation. Likewise suggestions for revision in prototype II were solicted from members of the steering committee. Some of the summative evaluation participants' comments follow:

"I used the handbook but not to a great extent because I was drawing more upon some of my own experiences."

"There was no way I could just use the handbook without putting me into it and how I best function."

"Not having as much experience as most of you probably have, I, on the other hand, went directly to the book."

"The whole process did make me tend to zero in on what is my problem. So often it is so easy to think about possible solutions before you really identify that problem."

"The handbook really needs some in-service."

"I don't quite see the correlation between the information in front of the book and the tactics."

"It (handbook) got too deep, too technical, too quickly."

"I'm fairly pleased with the material in here. It turns out that a lot of the things I do because of experience are written out."

"I'm very comfortable with the material in it."

"If you do have something like this, you almost need some type of session like we just went through."

"I used it as a reference."

The Havelock book was a good choice as a comparison treatment because it contains a section on installation tactics and strategies. It has been in use throughout the nation and has been revised. Likewise, the book is available commercially. Books relating specifically to career education were not selected because all that the authors identified were specific to a particular

concept of career education being promoted in a particular state. Also, these state handbooks tended to focus on the total spectrum of career education advocacy and did not pinpoint the formulations of an implementation strategy. It is interesting to note that the definition of career education was omitted from prototype I based on the advice of the steering committee. Later this recommendation was reversed by results from the field use of the handbook and questions received from summative evaluation participants. These participants had specific suggestions such as reversing the order of the first two steps in the handbook. Also, some of them were opposed to the use of "coercive" tactics. But, in general, the handbook was well received and many participants were reluctant to give it up at the end of a session. They were promised complimentary copies at the conclusion of the project.

CHAPTER III

Evaluation

The evaluation employed in this project addressed four major questions. These questions included the following: (1) Are the two research reports produced in Work Unit A ready for release? (2) Are the research findings incorporated into the handbook effectively? (3) Is the handbook in a form useful to local career education directors? and (4) Does the handbook significantly affect local career education directors' performance over and above that which would occur by use of a similar product? This section discusses the evaluation related to each of these major decision points.

Decision Point 1

This decision point addresses the question: Are the two research reports produced in Work Unit A for release? These two reports included:

> Hull, William L. and Kester, Ralph J. Perceived Effectiveness of Innovation Diffusion Tactics, The Center for Vocational Education, The Ohio State University, Columbus, Ohio, 1975.
>
> Kester, Ralph J. and Howard, John, Jr. The Adoption of Systems Innovations in Educational Organizations: A Case Study of Operation Guidance, The Center for Vocational Education, The Ohio State University, Columbus, Ohio, 1975.

This decision point was subsequently divided into two decision events (one for each publication). The first decision event was held on November 8, 1974. Two reviewers were asked to review the publication, The Adoption of Systems Innovations in Educational Organizations: A Case Study of Operation Guidance, and make recommendations related to publication. The overall recommendation for this decision event was to make some modification and publish the study.

The second decision event was held on December 12, 1974. Two reviewers were employed to examine the draft publication, Perceived Effectiveness of Innovation Diffusion Tactics, and

make a determination of its readiness for publication. The basic outcome of this review was that the publication be published with minor modification.

Decision Point 2

The second decision point was concerned with determining the extent to which the research findings were incorporated into the CEPIH. A reviewer was selected and this decision point was held on January 28-29, 1975. The overall purpose of this decision point was to assure that the handbook was based on empirical evidence and that the generalizations made in the handbook were based upon sound judgment. This decision point was designed to provide information to the program personnel on the adequacy of these incorporation efforts. The basic outcome of this decision point was that some modifications be made in the incorporation of the findings and that some other additional findings be incorporated.

Decision Point 3

This decision point was designed to collect information on the usefulness of the CEPIH to local career education project directors. This evaluation was conducted through a field trial of the initial draft of CEPIH in the three states of Florida, Ohio and Texas. Copies of the initial draft were provided to each of the three state career education directors and to a total of 20 local career education directors in the three states. A list of these individuals is provided in Appendix A. A map showing the geographical locations of these individuals is presented in Figure III-1. Each of these individuals were asked to use the CEPIH from September 1974 to February 1975 as they dealt with career education installation problems. In February 1975, each of the career education directors were asked for their comments and suggestions for improving the handbook. The areas specifically addressed by the final trial were: (1) usefulness of the CEPIH, (2) ease of finding information, (3) serious biases (e.g., cultural, sexual, economic, etc.), (4) ease of understanding, (5) meaningfulness of material, and (6) the degree to which CEPIH encouraged active planning of installation strategies. As a result of this field trial, CEPIH was substantially revised to be in a form more acceptable to local career education directors.

Decision Point 4

This decision point was designed to obtain information relative to the final summative evaluation of the CEPIH. Data to answer the question, "Does the handbook significantly affect diffusers of career education product performances over and above that which would occur by a similar product?" was collected by the Center. The plan for obtaining this information was the use

Figure III-1. Geographic Location of CEPIH Field Test Sites

of a pre-post-test control group design suggested by Campbell and Stanley (1963). The basic overall design is represented as follows:

Assignment Groups	Pretest	Intervention	Post-test	Written Diffusion Problems
Random Treatment$_1$	X	CEPIH	X	Y
Random Treatment$_2$	X	The Change Agent's Guide to Innovation in Education	X	Y

Participation Selection

Each state director of career education was asked to identify local directors of career education for state funded career education projects in their state. It should be noted, however, that states involved in the formative evaluation efforts (i.e., Florida, Texas, and Ohio) were not included because of their previous involvement with CEPIH. Additionally, the states of Hawaii and Alaska were not included due to the high travel costs of personnel from these two states. From the lists of local career education project directors submitted, a total of 56 directors were randomly selected to participate in this summative evaluation.

Local career education directors with three years or less of experience were assigned to level A_1; local directors with more than three years of experience were assigned to level A_2. One half of the local directors with three years or less experience directing career education projects were then randomly assigned to treatment$_1$ (CEPIH) and the remainder were assigned to treatment$_2$ (The Change Agent's Guide to Innovation in Education). The local directors with more than three years experience were randomly assigned in a similar manner.

The list of local career education directors who participated in the summative evaluation is given in Appendix A. A map showing the geographic location of these local directors is included as Figure III-2. Attrition due to last minute changes in plans, availability of directors, etc. resulted in a total of 46 local project directors in the total.

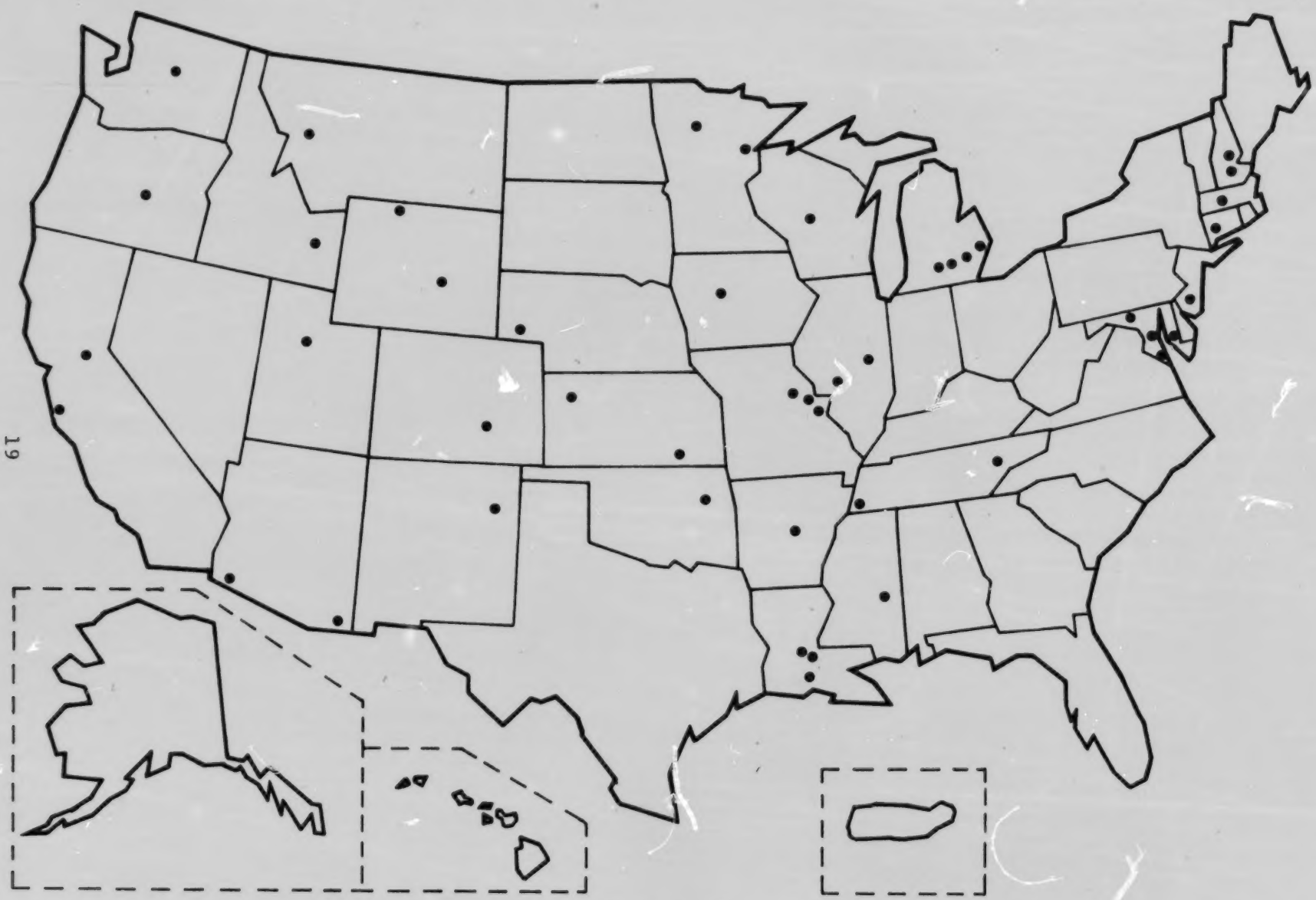


Figure III-2. Geographic Location of Local Career Education Directors Who Participated in the Final Summative Evaluation

Demographic variables associated with the local career education project directors is presented in Table III-1. The majority of these directors had a Bachelor or Masters Degree (76.1 percent), were employed in a local education agency (76.1 percent) for three or less years (60.9 percent), had served as a project director for two or less years (69.6 percent) and had one year or no experience directing other project-type activities (54.4 percent).

The multiple-choice career education product installation cognitive test was developed for use as a pre- and post-test. The original test consisted of 80 items and was pilot-tested with a group of graduate students at The Ohio State University. As a result of this pilot test the cognitive test was reduced to 50 items.

The internal consistency reliability for the cognitive test was estimated utilizing the pretest data obtained from both "treatment$_1$" and "treatment$_2$" groups. The internal consistency analysis utilized the Kuder-Richardson 20 and Kuder-Richardson 21 formulae as illustrated by Guilford (1965, pp. 458-462). This analysis resulted in a Kuder-Richardson 20 reliability of .56 and a Kuder-Richardson 21 reliability of .44. A similar procedure was utilized with a group of 41 local career education personnel from Western Michigan. This analysis resulted in a Kuder-Richardson 20 reliability of .71 and a Kuder-Richardson 21 reliability of .63.

The same test was used for the pretest and post-test. However, two different versions were used. The difference in the versions was the sequence of items. One half of the group of participants received the first sequence for their pretest. The other half of participants received the other sequence. The version of the test was reversed during the post-test phase. A copy of the cognitive test is provided in Appendix B.

The test-retest reliability was computed from a comparison of the pre- and post-test scores for the "treatment$_2$" group only. This analysis utilized a Pearson product-moment correlation of the two tests. There was some confounding of the test-retest reliability by the information being given to the "treatment$_2$" group due to the use of "The Change Agent's Guide to Innovation in Education." However, this should make for a more conservative estimate of the test-retest reliability. This analysis resulted in a test-retest reliability of .79.

TABLE III-1

DEMOGRAPHIC CHARACTERISTICS OF LOCAL CAREER EDUCATION DIRECTORS

Demographic Characteristics	Number of Respondents	Percent of Respondents
Educational Level		
Bachelor	5	10.9
Masters	30	65.2
Specialist	2	4.3
Doctoral	9	19.6
Total	46	100.0
Present Employer		
Local Education Agency	35	76.1
Regional Education Agency	8	17.4
State Education Agency	1	2.2
College or University	2	4.3
Total	46	100.0
Years Experience With Career Education		
1	1	2.2
2	10	21.7
3	17	37.0
4	10	21.7
5	6	13.0
10	1	2.2
24	1	2.2
Total	46	100.0
Years Experience As Career Education Project Director		
1	13	28.3
2	19	41.3
3	10	21.7
4	2	4.3
5	1	2.2
10	1	2.2
Total	46	100.0
Years Experience Directing Other Projects		
0	20	43.5
1	5	10.9
2	6	13.0
3	7	15.2
4	3	6.5
5	2	4.3
6	1	2.2
7	1	2.2
25	1	2.2

A Cognitive Test of Career Education Product Installation Knowledge

In the summative evaluation the researchers were interested in evaluating the effects of experience (factor A) and two handbooks (factor B) on career education product installation knowledge as measured by a cognitive test. The summative evaluation consisted of a simulated use of the handbooks for a three day period. A copy of the workshop agenda is presented in Appendix B. The local directors were administered a test on their cognitive knowledge of career education product installation on both a pre- and post-test situation (factor C). The criterion measure was the number of correct responses on the pre- and post-tests.

The mean cognitive pre- and post-test scores for the summative evaluation of the CEPIH is presented in Table III-2. The data reveals that the individuals who received the CEPIH had a mean 30.76 on the pretest. In contrast, those individuals who utilized The Change Agent's Guide to Innovation in Education had a mean pre-test score of 31.38. A statistical analysis utilizing a t-test as suggested by Winer (1962, p. 242 and 344) revealed that there was no significant difference between the mean pretest scores of these two groups (t-value = .46). This finding leads one to the conclusion that there was no statistical difference in the cognitive knowledge of career education product installation between the two groups prior to the experiment.

TABLE III-2

MEAN COGNITIVE PRE- AND POST-TEST SCORES BY TREATMENT GROUP

Group	Pretest	Post-test	Gain	Average
$Treatment_1$	30.76	34.18	3.42	31.86
$Treatment_2$	31.38	32.34	.96	32.47
Average	31.07	33.26		

The statistical technique followed in analyzing this data was a three factor experiment with repeated measures as suggested by Winer (1962, p. 337-344). The analysis of variance is summarized in Table III-3. The .05 level of significance is used in this analysis. In this analysis, the main effect for factor C (pre-posttest) is found to be statistically significant beyond the .01 level. This indicates the mean pretest score is statistically significant from the mean post-test score. Inspection of the data in Table III-2 revealed a mean pretest score of 31.07 compared to a mean post-test score of 33.26. This finding indicated that the participants gained a significant amount of knowledge on career

education product installation from the time the experiment began until it ended. The treatment X pre-post-test interaction was also statistically significant (at the .02 level). This interaction indicates that the pre-post-test scores differed depending upon the treatment. A graph indicating this interaction effect is shown in Figure III-3. This graph indicates that the effect of the two handbooks on the knowledge level of career education product installation differs by handbook.

TABLE III-3

SUMMARY OF ANALYSIS OF VARIANCE FOR THREE FACTOR EXPERIMENT

Source	Sum of Squares	df	Mean Square	F Ratio
Experience (A)	29.87	1	29.87	.87
Treatment (B)	8.12	1	8.12	.24
AXB	.25	1	.25	.01
Subject (D)	1443.58	42	34.37	
Pre-post-test (C)	106.41	1	106.41	18.29**
AXC	.44	1	.44	.08
BXC	33.24	1	33.24	5.27*
AXBXC	6.91	1	6.91	1.19
CXD	244.30	42	5.82	

** Significant beyond the .01 level

* Significant beyond the .05 level

Furthermore, those individuals who received the CEPIH gained more than those who received The Change Agent's Guide to Innovation in Career Education.

Simulated Situations

In addition to the pre- and post-test of career education product installation knowledge, the local directors were also given three simulated situations to which they were asked to prepare a written response. Copies of these situations are included in Appendix B.

These simulated problems were developed on the basis of problems actually encountered by local career education directors (Kahler, personal communication). A total of 30 situations were developed and submitted to the career education directors involved

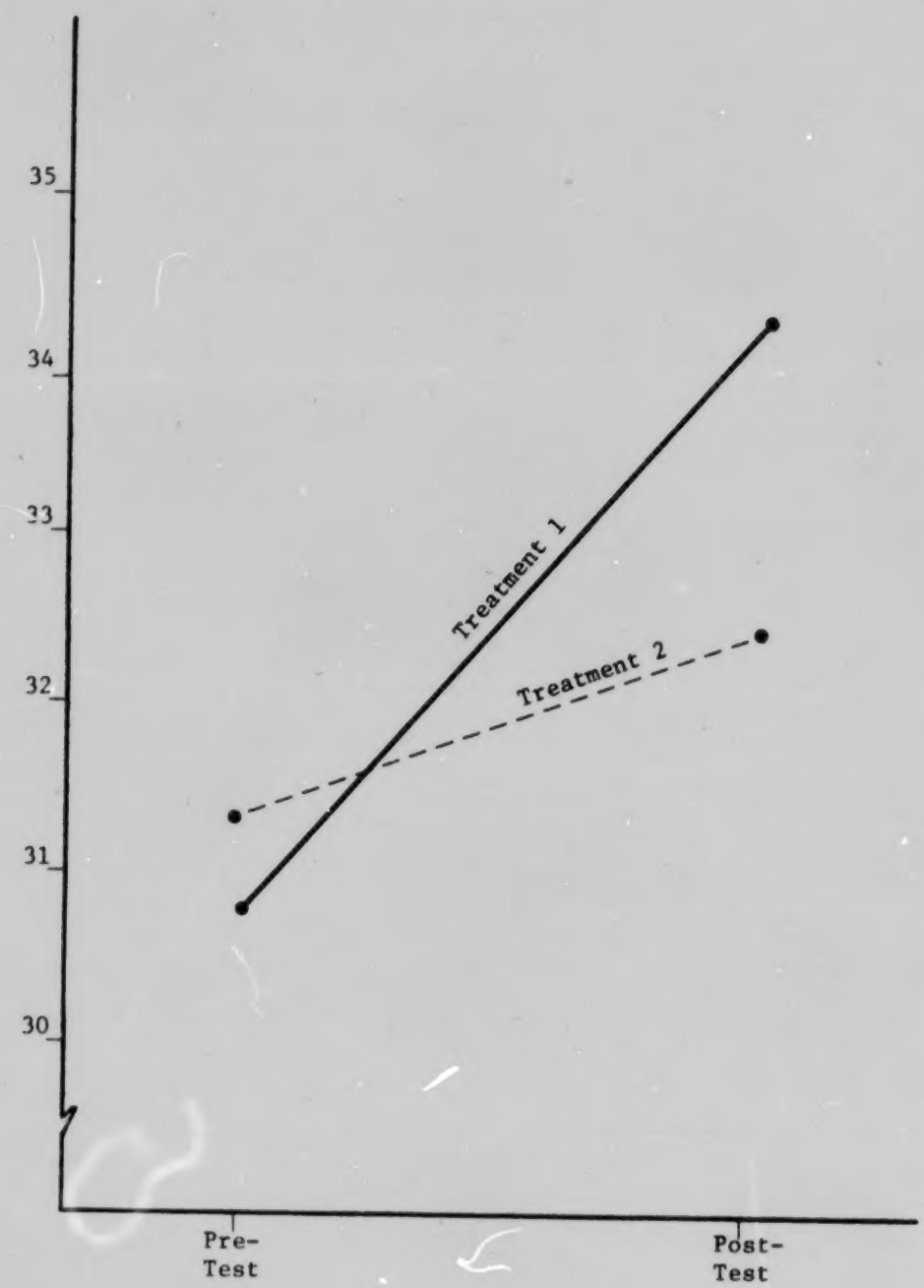


Figure III-3. Graph of Mean Pre-Post-Test Scores by Treatment

in the field trial of CEPIH. These directors rated each of these situations as to their realism. From the 30 situations, nine were selected as being most realistic. Finally, three situations were selected to be included in the summative evaluation. These three situations represented different stages in the installation process (i.e., early, middle, and late).

Each of the simulated career education implementation problems were used by each local director to formulate an implementation strategy for each problem. Each local director was allowed one hour in which to prepare his/her reactions. Following this, small group discussions were held for one hour which allowed the local directors to get feedback from the other local career education directors on their solutions and how the handbooks were utilized.

Upon completion of the simulated field trial, three judges were selected to evaluate the local directors' responses. These judges were knowledgeable of career education, school administration, and/or diffusion of innovations. Each judge was asked to rate the written response on a 5-point scale (1 = low, 5 = high) on the basis of: (1) clarity of communication, (2) logic of approach, and (3) chances of success. Additionally, each judge was asked to place no less than 5 responses in any one category.

The inter-rater reliability of the judges was a major concern in the analysis of these data. This reliability was established utilizing the analysis of variance technique suggested by Winer (1962, pp. 124-132). The formula for determining this estimate of reliability is as follows:

$$r = \frac{MS_{\text{between people}} - MS_{\text{residual}}}{MS_{\text{between people}}}$$

In utilizing this analysis it is assumed that: (1) the error of measurement associated with the simulated problem is uncorrelated with the true score, (2) the local directors were a random sample of all career education directors, (3) the simulated problems were a random sample of problems local career education directors face, and (4) the within-person variance could be pooled to provide an estimate of the error of measurement variance (i.e., that there were no person by situation effects).

Chi-square analyses were then conducted to determine if the scores of the local career education project directors on the simulated problems differed by treatment. The formula utilized in computing chi-square values was obtained from Snedecor (1967, p. 30) and is as follows:

$$X^2 = \frac{(\text{observed} - \text{expected})^2}{\text{expected}}$$

TABLE III-4

JUDGES' RATINGS OF RESPONSES TO SITUATION 1 BY SUBJECT

Subject	Subject's Score			
	Judge 1	Judge 2	Judge 3	Total
1	3	1	4	8
2	2	3	2	7
3	2	2	3	7
4	5	3	3	11
5	4	4	3	11
6	3	5	3	11
7	3	1	2	6
8	1	1	1	3
9	4	1	4	9
10	3	1	2	6
11	5	5	5	15
12	3	1	3	7
13	5	2	4	11
14	1	1	1	3
15	3	1	2	9
16	5	5	4	14
17	2	2	2	6
18	3	1	1	5
19	5	3	5	13
20	3	1	3	7
21	3	1	2	6
22	3	3	2	8
23	5	5	2	12
24	4	1	1	6
25	4	1	2	7
26	2	1	1	4
27	1	2	1	4
28	2	3	2	7
29	4	5	2	11
30	2	2	3	7
31	3	4	1	8
32	1	1	2	4
33	1	1	2	4
34	2	2	5	9
35	3	1	3	7
36	3	4	5	12
37	3	3	2	8
38	1	3	3	7
39	3	1	3	7
40	4	2	2	8
41	2	2	1	5
42	5	4	5	14
43	4	2	1	7
44	1	1	2	4
45	4	1	4	9
46	4	3	2	9
Average Judge Score	3.02	2.30	2.57	

Situation 1:

The judges' rating of the local career education director's written response by subject is presented in Table III-4. These data were then analyzed utilizing the analysis of variance technique suggested by Winer. The summary table of this analysis of variance is provided in Table III-5.

TABLE III-5

SUMMARY ANALYSIS OF VARIANCE TABLE FOR SITUATION 1

Sources of Variation	SS	df	MS
Between people	135.48	45	3.01
Within people	112.67	138	.82
Between judges	12.13	2	6.07
Residual	100.54	136	.74
Total	248.15	183	

The inter-rater reliability computed from data in Table III-5 using the formula suggested by Winer resulted in an estimated reliability of .75. This estimate of reliability refers to the average of the three ratings made on each of the 46 local career education directors. Another way of stating this would be that if the experiment were to be performed again with another sample of four judges, but with the same local directors, the correlation between the mean ratings obtained from the two sets of data would be approximately .75.

The ratings of the three judges were then combined to provide a more stable estimate of each subject score. Table III-6 provides a summary of the total scores by treatment group. The chi-square value needed for significance at the .05 level (one-tailed test) with 11 degrees of freedom is 19.7. An analysis of the data resulted in a chi-square value of 14.96. This value was less than the level needed for significance, therefore, there was no statistical difference between the scores on the simulated problems of the local career education director in "treatment$_1$" and those local career education directors in "treatment$_2$".

Situation 2:

The judges' rating of the local career education director's written response by subject is presented in Table III-7. The inter-rater reliability for Situation 2 was conducted utilizing the same procedure as Situation 1. A summary analysis of variance table for this data is shown in Table III-8. The inter-rater

TABLE III-6

NUMBER OF LOCAL CAREER EDUCATION DIRECTORS BY TOTAL SCORE AND TREATMENT FOR SITUATION 1

Total Score	Number of Local Career Education Directors		
	$Treatment_1$	$Treatment_2$	Total
3	2	0	2
4	3	2	5
5	0	2	2
6	4	1	5
7	7	4	11
8	2	3	5
9	3	2	5
10	0	0	0
11	1	4	5
12	0	2	2
13	0	1	1
14	0	2	2
15	0	1	1

TABLE III-7

JUDGES' RATINGS OF RESPONSES TO SITUATION 2 BY SUBJECT

Subject	Subject's Score			
	Judge 1	Judge 2	Judge 3	Total
1	3	1	2	6
2	5	2	3	10
3	2	4	4	10
4	4	2	3	9
5	2	5	4	11
6	3	3	3	9
7	3	1	2	6
8	3	1	2	6
9	4	2	5	11
10	4	3	2	9
11	5	5	5	15
12	3	3	3	9
13	3	3	5	11
14	4	1	4	9
15	4	1	4	9
16	5	5	5	15
17	3	3	3	9
18	3	1	3	7
19	5	5	5	15
20	2	1	2	5
21	2	1	2	5
22	3	1	2	6
23	5	5	3	13
24	2	3	1	6
25	3	1	2	6
26	3	2	2	7
27	3	4	3	10
28	2	2	3	7
29	1	3	2	6
30	1	2	2	5
31	1	1	1	3
32	1	1	1	3
33	1	1	2	4
34	3	2	4	9
35	1	1	1	3
36	3	4	3	10
37	1	1	1	3
38	2	1	1	4
39	1	3	3	7
40	1	3	5	9
41	1	1	2	4
42	5	4	4	13
43	4	2	2	8
44	2	4	3	9
45	2	2	2	6
46	3	1	3	7
Average Judge Score	2.76	2.35	2.80	

reliability was computed following the same procedure as Situation 1. This computation resulted in an estimated inter-rater reliability of .84.

TABLE III-8

SUMMARY ANALYSIS OF VARIANCE TABLE FOR SITUATION 2

Source of Variation	SS	df	MS
Between people	153.88	45	3.42
Within people	82.00	138	.59
Between judges	5.84	2	2.92
Residual	76.16	136	.56
Total	235.88	183	

The researchers again combined the judges' scores and conducted a chi-square analysis to determine if the treatment groups differed in their ability to solve these simulated problems. Table III-9 provides a summary of the local career education directors total judges' score for Situation 2 by treatment group. The chi-square value needed for significance at the .05 level with 10 degrees of freedom was 18.3 (one-tailed test). A chi-square analysis of the data resulted in a value of 11.9 and was not a significant value. Therefore, the two treatment groups did not differ statistically in their ability to respond to Situation 2.

TABLE III-9

NUMBER OF LOCAL CAREER EDUCATION DIRECTORS BY TOTAL SCORE AND TREATMENT FOR SITUATION 2

Total Score	Number of Local Career Education Directors		
	$Treatment_1$	$Treatment_2$	Total
3	2	2	4
4	0	3	3
5	2	1	3
6	5	3	8
7	2	3	5
8	1	0	1
9	7	3	10
10	2	2	4
11	1	2	3
13	0	2	2
15	0	3	3

Situation 3:

The local career education directors' scores on Situation 3 by judge is presented in Table III-10. The inter-rater reliability for this situation was conducted utilizing the same procedure as the two preceding situations. A summary analysis of variance for Situation 3 is presented in Table III-11. Again the inter-rater reliability was conducted utilizing the same procedure as the previous two situations. The estimated inter-reliability of the judges for Situation 3 was .75.

To determine if significant differences occurred between the two treatment groups, the judges' scores were again combined for each subject and a chi-square analysis was conducted. The number of local career education directors by total score and treatment group is presented in Table III-12. An analysis of the data revealed a chi-square value of 5.99. The chi-square value needed for significance at the .05 level (one-tailed test) with 10 degrees of freedom was 18.3. Therefore, there was no statistical difference between the two treatment groups ability to respond to Situation 3.

TABLE III-10

JUDGES' RATINGS OF RESPONSES TO SITUATION 3 BY SUBJECT

Subject	Subject's Score			
	Judge 1	Judge 2	Judge 3	Total
1	3	3	4	10
2	3	1	3	7
3	3	1	2	6
4	5	4	1	10
5	1	1	1	3
6	1	1	1	3
7	2	1	2	5
8	3	1	3	7
9	5	4	5	14
10	3	3	3	9
11	5	4	5	14
12	3	1	3	7
13	1	4	1	6
14	3	1	1	5
15	4	3	3	10
16	4	1	2	7
17	3	3	3	9
18	3	2	3	8
19	4	5	2	11
20	4	3	5	12
21	4	1	2	7
22	4	4	1	9
23	5	5	4	14
24	2	1	1	4
25	1	2	2	5
26	1	1	3	5
27	3	2	2	7
28	5	1	3	9
29	1	1	2	4
30	2	1	2	5
31	4	1	2	7
32	3	1	4	8
33	3	1	2	6
34	4	5	5	14
35	2	5	3	10
36	2	1	4	7
37	3	1	3	7
38	1	1	2	4
39	2	1	3	6
40	1	1	1	3
41	2	5	2	9
42	5	2	2	9
43	2	2	1	5
44	1	1	1	3
45	2	1	4	7
46	5	1	5	11
Average Judge Score	2.89	2.09	2.59	

TABLE III-11

SUMMARY ANALYSIS OF VARIANCE FOR SITUATION 3

Source of Variation	SS	df	MS
Between people	139.76	45	3.11
Within people	120.67	138	.87
Between judges	15.17	2	7.59
Residual	105.50	136	.78
Total	260.43	183	

TABLE III-12

NUMBER OF LOCAL CAREER EDUCATION DIRECTORS BY TOTAL SCORE AND TREATMENT FOR SITUATION 3

Total Score	Number of Local Career Education Directors		
	$Treatment_1$	$Treatment_2$	Total
3	2	2	4
4	1	2	3
5	3	3	6
6	2	2	4
7	6	4	10
8	1	1	2
9	3	3	6
10	2	1	3
11	0	3	3
12	1	0	1
14	1	3	4
Total	22	24	46

CHAPTER IV

PRODUCT UTILIZATION

Introduction

Product utilization is a functional section of The Center which is responsible for developing and implementing plans which insure the use of designated products by the appropriate audiences. To accomplish this the product utilization organizational structure consists of a planning unit, a production unit (including typing, graphics, and audio-visual preparation, and duplication of materials), a promotion unit, and a distribution unit. An individual within the planning unit is designated as the representative to work with the director of a project in formulating and coordinating his/her needs for product utilization. This involvement by the product utilization planner begins at the inception of the project and incrementally increases as products are completed.

In the case of the project reported here there were two products. One was the handbook and the second was this report. Therefore, plans were developed, coordinated, and are now being implemented to obtain an appropriate distribution of these two products. This chapter explains what was done by the product utilization section and outlines the activities to be performed.

There were basically nine categories of activities in which product utilization was involved.

1. Program monitoring
2. Development of the program technical plan
3. Conduct of a market analysis
4. Development of production and packaging specifications
5. Development of promotion, distribution, and service specifications
6. Preparation of a product utilization plan
7. Conduct of promotional activities
8. Conduct of product production activities
9. Conduct of product distribution and service activities

Program Monitoring

The product utilization planning representative observed the program research and development activities, identified and recorded data concerning activities which would affect the ultimate dissemination of the project's products. Once recorded, this data was shared with the project director for confirmation and passed on to other units of product utilization when appropriate.

Monitoring was done by attending project staff meetings, accompanying project staff when they were talking with test-site individuals, and being on call for the purpose of coordinating general product production and promotion needs.

Development of Technical Plan

The product utilization planner prepared the Product Utilization sections of the technical plans for program activities. This plan outlined procedures and tasks which were to be accomplished to move the products from developers to ultimate users. The results of this activity are further explained in latter activities.

Conduct of Market Analysis

Purpose of the Market Survey

The intent of the market survey was to collect data to be used in the development of a product utilization plan for the Career Education Product Installation Handbook. Data were collected on the potential market for the handbook, perceived consumer benefits, consumer adoption behavior, perceived consumer resistance, media by which potential consumers receive information about products, and distribution channels through which products reach the consumer.

Objectives of the Survey

The market survey had the following specific objectives:

1. To determine who are the potential users of the handbook (state directors and supervisors of vocational education, state coordinators of career education, superintendents, principals, local directors of career education).

2. To determine what factors cause consumer resistance to purchase of the handbook (cost, difficult to use, impractical).

3. To determine the appealing features of the handbook (ease of understanding, illustrative case studies, appropriate language level).

4. To determine the kinds of career education products being installed in public schools (curriculum materials).

5. To determine how many copies of the handbook would be purchased at specific price levels ($3.00, $5.00, $8.00).

6. To determine who should receive promotional information about the handbook (state superintendents of public instruction, state coordinators of career education, superintendents, school boards, local directors of career education).

Methodology

The Product Utilization staff obtained the necessary market survey data through (1) telephone interviews with potential handbook users at the state and local level, and vocational teacher educators; (2) from questions incorporated into the product usability instrumentation (field application) which was administered to 30 state and local career education directors; and (3) from supplementary market survey information secured informally through the following activities:

1. Potential user reaction to the CEPIH brochure and Centergram article.

2. Feedback received by Product Utilization staff members at exhibits and displays at The Center for Vocational Education and at professional meetings.

3. Discussions between program staff and users during the field application of the handbook.

Questions relating to determination of potential users of the handbook, factors causing consumer resistance, and determination of the appealing features of the handbook (objectives one, two, and three) were incorporated into the evaluative instrumentation for the field application (see Appendix D). Thirty state and local career education directors were surveyed by questionnaire during field application of the handbook at 30 different sites. They were used for determining the usability of the handbook because (1) they were more familiar with the contents than the telephone survey respondents, (2) they were exposed to the handbook over an extended period of time (6 months), and (3) they constituted an audience perceived to be one of the primary potential user groups.

A minimal telephone survey (20 calls) supplemented the above data, allowed contact of potential users not included in the field application, and provided an opportunity for two-way communication not possible with a paper survey. The sample for the telephone interview included educators at the state and local level as well as teacher educators. Participants were selected purposively from the mailing list maintained by The Center with attention directed to geographic location and area of interest (e.g., agriculture, business and office, trade and industry, home economics). The following sampling proportion was suggested:

State Directors of Vocational Education	2
State Career Education Coordinators	4
State Supervisors of Vocational Education	2
Vocational Teacher Educators	4
Local Superintendents and Principals	4
Local Curriculum Coordinators	4
Total	20

After 20 educators or school systems were identified as potential participants in a telephone interview, a letter was sent to each indicating that The Center for Vocational Education was developing a Career Education Product Installation Handbook and was interested in assessing its receptivity and potential usefulness. Each participant received a copy of the field test version of the handbook for review. A follow-up telephone interview using a structure questionnaire was conducted by Product Utilization staff to assess their reactions to the handbook. Objectives one, two, four, five, and six were addressed during the interview. A post card was enclosed with the initial letter upon which the potential participants indicated their willingness to participate and provide the name, address, and telephone number of the individual to be contacted if other than themselves. If no response or negative responses were received, additional names were to be selected until 20 participants agreed to take part. Since the initial sample agreed to participate, it was not necessary to add names.

Questionnaire items for the field application were developed cooperatively by Product Utilization and program staff and the telephone interview instrument was prepared by Product Utilization staff. Instruments were forwarded to the Evaluation Division of The Center for Vocational Education for technical review. Once found to be technically sound, they were sent to The Center Protection of Human Subjects Committee for clearance. After appropriate revisions, the instruments were sent to NIE for final review and approval.

Data Tabulation and Analyses

Data secured from the questionnaires completed by the 30 state and local career education directors and the information obtained through the 20 telephone interviews was tabulated and analyzed by the Product Utilization staff. Major findings were identified, conclusions drawn on the basis of these findings, and recommendations formulated for the product utilization plan.

Return

Out of 20 designated individuals, 10 responses were obtained in the telephone interview. This comprised a 50 percent response rate.

Findings

In general, the response was that the handbook is seen as a useful tool for those involved with the implementation of career education. Also, there was indications from two or three of the respondents that indicated they felt the handbook had applicability in a broader domain of product and program implementation processes. Several of the respondents saw the use of the handbook in inservice training of individuals that might be responsible for product and program implementation.

The respondents indicated that the primary users of the handbook would be curriculum developers, graduate teacher educators, and local supervisors of career education programs. A second set of users would be state department consultants or supervisors, and school administrators. The least likely to use the handbook would be teachers, researchers, and state department administrators.

Only two out of the nine respondents in the telephone survey had anything they specifically indicated as objectionable about the handbook. The following are a listing of the comments by those individuals.

> Not attracted to "workbook" approach. It seems cumbersome.
>
> Football "jobks" turn lots of people off.
>
> Too heavy on process.
>
> If I were implementing I would not be apt to do the workbook exercises.
>
> None, but there are some technicalities such as fait accompli and threats of punishment which would not be appropriate in our situation.

All "handbooks" tend to get left on the shelf. A coordinator needs to encourage use.

In terms of what individuals might expect to pay for the handbook the estimates ranged from $2.00 to $25.00. However, the most often quoted price range was from $5.00 to $8.00.

All telephone survey respondents indicated that they would purchase at least one copy of the handbook. Three respondents indicated that they would probably purchase more than one copy. Possibly 5 to 10, to as many as 35 copies. A couple of respondents indicated that they would prefer to purchase one copy and duplicate it themselves if need be.

Promotion should go to individuals such as: career education consultants at the state and local levels, curriculum developems and supervisors, RCU directors, teacher educators, and professional development directors. Some other persons would be guidance personnel and local vocational education directors.

The means of promotion should be multiple. Using brochures and flyers, announcements in professional journals and newsletters, and exhibits at professional conferences.

Conclusions

The handbook generally will be well received. However, there will be some reaction to the football faming analogy and possibly a label of male sex bias toward the content. Hopefully, these defects will be corrected in the revised manuscript. Encouragement will be necessary in order for it to be used to its fullest potential. Inservice workshops and team approaches to the implementation and use of the handbook seem desirable. It will be easier to identify who will not see the handbook relevant to their professional responsibilities than to list those who will. Generally teachers, state administrators and researchers are ones who may find less application of the handbook to their immediate role responsibilities. Other educational professionals should find the information germain to their roles.

Customers would expect to pay somewhere between five to eight dollars for the book. Under present rates, The Center cost would be approximately $11.50 which is probably not too far above the upper limit of the expectation.

In summary, it can be stated that the handbook has utility from the consumers' viewpoint and they will purchase copies and use them in their career education program implementation. Promotion should be as broad and varied as possible de-emphasizing only local teachers, state administrators and researchers.

Development of Production and Packaging Specifications

The product utilization section assisted program staff in the determination of format and packaging considerations. One of the major issues which arose early around this area of concern was whether there should be one, or two, or possibly even other versions of the handbook. The question hinged around whether advocates of career education at various levels (e.g., state, regional, local) would need different guidelines. The technical plan set the overall issue in the following statement:

> The decision to produce more than one version of the CEPIH must be based on a significant amount of evidence showing real differences in the roles of career education product advocates proposed as users of this handbook.

Through discussions with the program steering committee, career education project directors and others, it was determined that only one version was needed. The handbook is primarily designed for local educational personnel in installing or implementing career education related products. It was the general consensus of those with whom we talked that these people did not greatly differ in their needs and concerns related to implementing career education related products.

Development of Promotion, Distribution, and Service Specifications

This was a planning task which preceded the preparation of the product utilization plan. The respective sections of product utilization provided input to the accomplishment of this task.

Preparation of a Product Utilization Plan

The product utilization planner had primary responsibility for developing the product utilization plan. It provided a guide for the production, promotion, and distribution of the products of the program on a cost-recovery basis.

Conduct of Production, Promotion, Distribution, and Service Activities

Production and promotion services were conducted through the direction of the program. Distribution activities are to be performed when the products are completed and ready for sale on a cost-recovery basis.

CHAPTER V

SUMMARY

Findings

1. The summative evaluation participants using the CEPIH scored significantly different on the pre- and post-test of career education product installation knowledge than those using the comparison book.

2. The summative evaluation participants using the CEPIH gained more knolwedge than the participants using the comparison book.

3. The summative evaluation participants' experience as project directors had no significant association with their cognitive knowledge acquisition.

4. The summative evaluation participants' mean pretest score was significantly different from the mean post-test score on cognitive knowledge of career education installation procedures.

5. The summative evaluation participants' strategies for resolving each of the simulated career education installation problems did not differ significantly by treatment group.

Claims for the Handbook

1. The content of the handbook is based on reliable information.

2. The handbook is relevant for career education implementation problems.

3. The material in the handbook is free of serious social (sexual, ethnic, etc.) biases.

4. The handbook is easy to use.

5. The handbook is inexpensive.

6. Use of the handbook will improve a career education director's ability to formulate an effective implementation strategy.

7. The handbook is as effective as currently available materials in assisting career education project directors to formulate implementation strategies.

Recommendations

1. The handbook should be made available to career education project directors in local education agencies.

2. Potential users of the handbook should be introduced to the implementation process via small group in-service workshops.

3. Experienced career education project directors may be able to effectively use the booklet of tactics; but, in general, the use of the procedural guide with the set of tactics is advised.

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APPENDICES

Appendix A: Persons Contributing to the Development of the Handbook

Appendix B: Summative Evaluation Materials

1. Workshop Agenda
2. Cognitive Test
3. Simulated Situations

Appendix C: Development Materials

1. 1974 Steering Committee Meeting Notes
2. Summary of Revision Committee Meeting
3. Suggested Guidelines for Nominating Local Education Agencies

Appendix D: Formative Evaluation Settings and Results

1. Characteristics of the Field Site Settings
2. Results of the Formative Evaluation

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APPENDIX B

SUMMATIVE EVALUATION MATERIALS
1. Workshop Agenda

CAREER EDUCATION PRODUCT INSTALLATION

Simulation Workshop Agenda

Day 1

1:30 - 2:00	Introduction, Purposes, and Objectives
2:00 - 3:00	Pretest
3:00 - 3:15	Coffee Break
3:15 - 5:00	Distribute Workshop Materials - Read and become acquainted with References

Day 2

8:30 - 9:30	Situation #1
9:30 - 10:30	Small Group Discussion of Situation #1 Group A Group B Group C
10:30 - 11:30	Situation #2
11:30 - 1:00	Lunch
1:00 - 2:00	Small Group Discussion of Situation #2 Group A Group B Group C
2:00 - 3:00	Situation #3
3:00 - 3:15	Coffee Break
3:15 - 4:15	Small Group Discussion of Situation #3 Group A Group B Group C
4:15 - 5:00	Group Discussion of the Three Situations

Day 3

8:30 - 9:00	Closing Remarks
9:00 - 10:00	Post-Test
10:00 - 10:15	Coffee Break
10:15 - 10:45	Career Education Product Installation Handbook
10:45 - 11:30	Reimbursement Procedure
11:30	Adjourn

2. Cognitive Test

CAREER EDUCATION PRODUCT INSTALLATION TEST

DIRECTIONS: The Career Education Product Installation Test is designed to determine your knowledge of and experience in installation strategies. Your response will be used in determining the effectiveness of career education materials in developing strategies for implementation. The information you use will not be associated with your name in reporting the data. Your responses will be used in the analysis of group data only. Participation in this study is strictly voluntary. The individual information and scores will not be made available to any individual, organization, or agency. Your individual reactions will be destroyed by October 31, 1975. We appreciate and value your professional reactions.

Please read each question carefully, including each of the responses. Then darken in the letter on your ANSWER SHEET that corresponds with what you think is the one best answer. Try to answer all of the questions. The following example question should help you to understand exactly what you are to do:

About how long is a normal work week?

A. 40 hours
B. 30 hours
C. 25 hours
D. 60 hours

For this question you would have darkened in the A on your ANSWER SHEET, since a work week is normally 40 hours long.

Please make sure your name is printed in the appropriate place on the ANSWER SHEET.

1. Which of the following is least essential to the establishment of incremental objectives?

   a. Selection of short-term behaviors which are critical to the success of the installation activity.
   b. Determination of conditions in the client setting which may influence the achievement of the objective.
   c. Selection of comprehensive, specific behaviors.
   d. Determination of observable criteria for evaluating achievement of the objective.

2. Which method of collecting evaluative information on the impact of installation tactics yields the most objective data?

   a. observation of antecedent conditions
   b. personal interviews with the project director
   c. personal interviews with an evaluator associated with the project
   d. personal interviews with an evaluator not associated with the project

3. The tactic of competition has as one of its goals the generation of:

   a. least-cost solutions to problems
   b. interest in the product
   c. the elimination of alternative solutions
   d. all of the above

4. Although a consensus is seldom reached, one way to gain information from teachers when solving problems is:

   a. to observe their behavior
   b. brainstorming
   c. collaborative activity
   d. small group discussion

5. During negotiation periods, it is advisable to overstate one's demands as this allows for possible:

   a. brainstorming
   b. consensus
   c. compromise
   d. all of the above

6. If a project manager wanted to include specific teachers in the development and revision of materials, what tactic would be chosen?

   a. role playing
   b. consultation
   c. staff development
   d. small group discussion

7. If an individual resists innovation, a project manager might try:

   a. mass media communication
   b. brainstorming
   c. a collaborative activity
   d. setting a deadline for using the innovation

8. A pilot test of a product involves:

   a. demonstrating a product on site
   b. trying the product on a limited basis
   c. facilitating communication between school and community
   d. endorsement by credible users of the product

9. Installation tactics are designed to:

   a. work in all situations
   b. achieve incremental objectives
   c. gain wide audience participation
   d. all of the above

10. The heterogenity of the teaching staff would be a characteristic of which of the following:

    a. tactic
    b. product
    c. client
    d. advocate

11. Research has shown that:

    a. affluent school districts tend to be more innovative
    b. poor school districts tend to resist innovation
    c. the relationship between affluence and resistance to innovation is not clear
    d. affluent school districts with small school populations are more resistant to innovation

12. Which of the following provides the best means of extending advocacy of a career education product during the evaluation stage of installation?

    a. Interpersonal relationships among clients
    b. Mass media
    c. Administrative order to use the product
    d. Promotional information

13. An installation objective should be:

    a. relatively attainable
    b. restricted to a time table
    c. operational
    d. all of the above

14. The initial step in formulating an installation strategy is the:

    a. profiling of influential elements
    b. development of an evaluation plan
    c. establishment of incremental objectives
    d. selection of appropriate tactics

15. Assume three elements are present in product installation: the product, the client, and the advocate. Which of these interact?

    a. product and client
    b. product and advocate
    c. client and advocate
    d. all of the above

16. In order to facilitate product installation, one should assume that:

    a. a good product does not need an advocate
    b. use of a product is based on its merits
    c. people make rational decisions
    d. none of the above

17. A career education advocate's goal is to:

a. design a product to meet some curriculum objective
b. get a career education product accepted and/or used
c. use and evaluate a product
d. identify needs for change in the education system

18. A tactic is:

a. a method of evaluating product efficiency
b. usually initiated by a client
c. usually the result of the advocate's personality
d. an action taken to achieve installation

19. When a series of evaluations continue to show general acceptance on the part of the individuals being influenced,

a. time should not be used for further evaluation
b. evaluations should be made after each new activity is initiated
c. it is best to let the career education product sell itself
d. deviation from the installation strategy should take the form of earlier deadlines

20. In evaluating the installation of a career education product, the primary concern of the evaluator is the

a. acceptance of the project director
b. consequences of unanticipated events
c. extent to which goals were met
d. cost-effectiveness of the evaluation procedures

21. Evaluation activities cannot guarantee that a final objective will be met because

a. the timing and sequencing of installation activities should be flexible
b. the evaluator can only make recommendations
c. most methods of evaluation lack of objectivity
d. all of the above

22. When initiating the activities of an installation strategy, an effective career education project director will proceed

    a. with caution
    b. with haste
    c. with firm, unchangeable objectives
    d. without deviating from the schedule of activities

23. A change agent can be more forceful in attempting to implement a career education product when

    a. the agent is viewed as an "outsider"
    b. the agent has been with the organization for a long time
    c. the agent has technical information about the product
    d. the agent is respected by the users

24. It may be necessary for a change advocate to gain the confidence of a community "option leader" if the career education product

    a. is not oriented to students
    b. is likely to compete with resources in the existing program
    c. is going to require extreme reorganization before implementation
    d. is associated with values that have a high potential for organized resistance

25. A change agent should emphasize various important characteristics of a career education product because

    a. different audiences may be interested in different aspects of the product
    b. different school districts are differentially disposed toward educational innovation
    c. teachers vary in their ability to use products
    d. all products are not alike

26. Individuals who are introduced to a career education product will go through various stages of accepting that product. To facilitate this acceptance, a change agent should

    a. insist on all potential users observing the product in action as soon as possible
    b. establish separate objectives for each state of adoption
    c. persuade the individuals to give the product a trial run
    d. evaluate the product

27. To measure whether an objective has been attained requires that it be

    a. operational (behaviorally defined)
    b. attainable within a certain time limit
    c. independent of other objectives
    d. all of the above

28. Which of the following is <u>least</u> true?

    a. Products should be field tested before installation.
    b. Change advocates should be sensitive to other people.
    c. Good products sell themselves.
    d. Volunteers may be used to try out products.

29. Coercive tactics tend to be most effective when

    a. progress on the installation of the innovation is deadlocked
    b. the installation activity has just begun
    c. other solutions to the problem have been exhausted
    d. the advocate is in a superordinate position to the person being influenced

30. Most installation strategies in career education

    a. require informative tactics
    b. require persuasive tactics
    c. require coercive tactics
    d. require a mix of the above types of tactics

31. Which of the following most accurately describes the use of installation tactics?

    a. All tactics can be used equally well by any advocate.
    b. Installation tactics have unique uses with people and places.
    c. Most tactics can be used with confidence.
    d. The selection and use of most tactics is a trial and error process.

32. Which of the following tends to most influence the choice of an installation tactic?

    a. The personal preferences of an advocate.
    b. The location of the career education project director's office.
    c. The purpose for which the tactic is to be used.
    d. The consequences of using the tactic.

33. One reason why installation of a career education product may stall is that too many alternative activities present themselves at a given point in time. To avoid this problem,

    a. plan an overall strategy according to a time table
    b. select only those tactics which you know to be effective
    c. use the least coercive activities
    d. plan for discussion groups whenever that problem arises

34. The attitudes of which of the following groups must be considered in planning against organized resistance?

    a. teachers
    b. principals
    c. superintendents
    d. all of the above

35. The characteristic of a career education product which is least important to the change advocate is

    a. how the product is oriented to the labor market
    b. where the product was developed
    c. the cost of the product
    d. all of the above are equally important

36. The actions initiated for the installation of career education products

    a. are generally product specific
    b. are not specific to the stage of adoption
    c. are aimed at gaining support for the product
    d. are general enough to be used with any client

37. Before selecting an installation activity, the project director should profile

    a. his or her position as a product advocate
    b. the utility of the career education product
    c. the potential user's perception of the product
    d. all of the above

38. When contacting persons for the first time, career education advocates should avoid which of the following:

    a. a salesman image
    b. a low profile
    c. establishing a clincial relationship
    d. giving them technical information about the product

39. An underdeveloped career education product

    a. should never be installed into a school system
    b. may be installed successfully in large school districts
    c. may be helpful to beginning teachers
    d. may be used successfully by resourceful teachers

40. The relationship between career education product users and their supervisors is such that

    a. endorsement of a product by supervisors will insure continued use of the product
    b. supervisors will withhold judgement of a product until the users have evaluated it
    c. users frequently suspend use of an "approved" product when unsupervised
    d. the opinion of users is generally inconsistent with that of supervisors

41. The effective timing of an installation tactic depends upon many factors. Which of the following is the most important?

    a. the readiness of the client for the product
    b. the readiness of the advocate to plead a case for the product
    c. the stage of development of the product
    d. recent past events which affect the ability of the school district to pay for the product

42. An initial contact with a client for the purpose of establishing the role of the change advocate with a single individual is best accomplished with

    a. a visit from the change advocate
    b. a telephone call
    c. a personal letter
    d. an informative brochure

43. When interacting with other people, an advocate should

    a. check to see what worked in similar situations
    b. carry out product installation plans regardless of the client's response
    c. ask questions of the client to determine which installation tactic is most likely to succeed
    d. be guided by his or her knowledge of what is needed in the school district

44. When initiating career education activities, it is most important to

    a. have the approval of the administration
    b. have the goodwill of the teachers
    c. plan the schedule of activities in advance
    d. have a good product

45. When reformulating an installation tactic, it is best to

a. consider the interests and desires of the client audience
b. look at the impact of the previous installation tactic on the client
c. rely on your own intuition
d. ask the building principal for permission to involve teachers in career education activities

46. When reformulating an installation strategy, career education advocates should:

a. use tactics which are high pressure
b. look for unanticipated responses of clients to previous tactics
c. not change the incremental objective
d. base your decisions on empirical data only

47. One way to improve the chances of achieving your installation objectives when reformulating diffusion tactics is to

a. use more coercive tactics with clients
b. modify the product
c. diagnose more carefully the client's perceived need for the product
d. adjust the objectives downward

48. The most important item to consider when diagnosing the need for new installation tactics is to determine

a. what tactics are most likely to be acceptable to the client
b. which tactics are most likely to get the job done
c. why the previously used tactics failed
d. who was responsible for the failure

49. Which one of the following statements is <u>not</u> true:

a. The selection of an installation tactic is a personal decision.
b. Good products sell themselves.
c. Evaluation is a continuous process.
d. Objectives may be incremental in nature.

50. The periodical assessment of the impact of an installation strategy may provide the project director with a basis for

a. reformulating the installation strategy
b. reinforcing support for the installation of a career education product
c. describing the program to individuals interested in its adoption
d. all of the above

3. Simulated Situations

CAREER EDUCATION PRODUCT INSTALLATION TEST

DIRECTIONS: The Career Education Product Installation Test is designed to determine your knowledge of and experience in installation strategies. Your response will be used in determining the effectiveness of career education materials in developing strategies for implementation. The information you use will not be associated with your name in reporting the data. Your responses will be used in the analysis of group data only. Participation in this study is strictly voluntary. The individual information and scores will not be made available to any individual, organization, or agency. Your individual reactions will be destroyed by October 31, 1975. We appreciate and value your professional reactions.

Please read the situation carefully. Based on your understanding of the problem, please prepare a plan of action for solving the problem. Your plan of action should include the following steps:

1. What other conditions and/or information are you assuming in responding to this situation?
2. Describe in specific terms the problem to be resolved.
3. Identify potential tactics for use in dealing with this problem.
4. List the advantages and disadvantages of each potential tactic.
5. Select, in your opinion, the one best tactic for dealing with the problem.
6. Indicate how you will determine the effectiveness of the tactic in dealing with the problem.
7. List potential consequences of the tactic that the local project director could expect.

Prepare your written response on the attached ANSWER SHEET.

Situation 1

You have just been employed by a school system to plan and implement a career education program throughout the district. The school district includes both metropolitan and suburban communities with school attendance centers in each community. There are 3,500 teachers, 70 elementary school attendance centers, 14 junior high schools, and 6 senior high schools in the district. The school district contains businesses from all industrial and professional areas. There has been relatively little contact

with career education up to this time. The local citizen seems to have a high level of interest in the school district. In fact, a previous special project conducted by the school was criticized by the local citizens as being non-essential and frivolous. What tactics will you utilize in planning the career education program?

Name _____

CAREER EDUCATION PRODUCT INSTALLATION TEST

Situation 1

What other conditions and/or information are you assuming in responding to this situation?

Describe in specific terms the problem to be resolved.

Identify potential tactics for use in dealing with this problem.

List the advantages and disadvantages of each potential tactic.

Select, in your opinion, the one best tactic for dealing with the problem.

Indicate how you will determine the effectiveness of the tactic in dealing with the problem.

List potential consequences of the tactic that the local project director could expect.

Situation 2

At the end of the first year, you began to compare the progress of teachers in implementing career education activities in their classroom teaching. A group of approximately 25 percent of the teachers have totally revised their course of study, course objectives and content, and instructional approaches. They have based them on student interests, aptitudes, and abilities as expressed by their students and the literature available describing general interests of students in the age group they were teaching. These teachers have skillfully combined career education concepts and activities, subject matter, and student interests and problems to form the content of their courses. Another group of teachers have not revised their program of study, are teaching career education activities as separate units of instruction, and are placing major emphasis on mastery of the subject matter assuming that the learner will assimilate all that is taught and apply it as needed to solve his or her problems. Seventy-five percent of the teachers fall into this group. What tactic will you use in dealing with this situation?

Situation 3

The career education program activities you are coordinating in the school system been underway for two and one-half years. As coordinator, you have succeeded in (1) providing release time for your teachers to plan career education activities at the district's expense, and (2) establishing a sizeable budget to support career education activities throughout the school system. The local citizens have formed a "League of Taxpayers" to protest higher taxes to support the local school program. The board of education will be reviewing the progress of all programs in the school to establish program priorities and budgets for the upcoming school year. You have kept the board fully informed of your career education program activities throughout the past two and one-half years. However, the costs associated with the career education have risen due to inflation and increased activities of the teachers. What tactic will you use with this problem.

APPENDIX C

DEVELOPMENT MATERIALS

1. SUMMARY OF THE April 25-26, 1974 MEETING WITH THE STEERING COMMITTEE

The Steering Committee (see the attached list for the names of the members) assisting program staff in arriving at the following decisions:

Endorsements

1. The program should plan one version of the handbook for use in the field sites. This will minimize distribution problems and allow resources to be directed toward a quality product.

2. The products used to further develop the handbook should be sufficiently tangible to allow the change advocate to determine if it has been installed. Curriculum materials are perceived to be most appropriate for this use, with most of the attention being given to the exploration of careers during grades 6, 7, 8 and 9.

3. The handbook is not a device for selecting career education products. When the handbook is used to devise strategies, a product will have been identified for installation in a particular site and a person will have been given the responsibility for facilitating the installation process.

4. The handbook should be developed independent of any need to provide technical assistance in its use.

5. The handbook should be orientated to the process of installing career education products and not specific to the particular career education product being installed.

6. Users of the handbook can be classified into two gross categories depending upon the function and size of the agency: (1) a HUB agency such as a regional service center, a large school district, a teacher education agency, or a state education agency (these agencies would provide research, development and evaluation support to others engaged in the process of education); and (2) a SCHOOL UNIT such as a small school district, a school, or even a classroom which is primarily concerned with the learn/teaching process.

7. The potential target audiences for the handbook were identified as: regional coordinators, local directors, principals, curriculum vice principals, career educators, supervisors, coordinators, state directors of vocational education, and state advisory council members. (Chief state school officers are too busy to take action on use of the handbook, but they should be kept informed of its development.)

Handbook Specifications

8. The handbook should begin with general guidelines followed by more specific procedural activities which will be referred to by the user on a question by question basis. (Teacher users of the handbook are more likely to require more specific information about the installation of the product than administrators of HUB personnel.)

9. Career Education should not be defined in the handbook.

10. The handbook should be indexed in a format which will allow easy access to the information in the handbook; this information should be relatively "self-contained" within the sections of the handbook and be designed to require a minimum amount of reading for the desired information.

11. Provide space in the handbook for users to write the goals of the product being installed.

12. Criteria should be developed to allow the users of the handbook to evaluate characteristics of the product being installed, and to assess the ability of the target audience setting to install the product effectively.

13. A variety of suggested means for assessing the career education product and the target audience setting should be included in the handbook.

Additional Suggestions

14. The handbook should be installed in the development sites via inservice education of career education advocates. This will require the handbook be ready for distribution at least by August 15, 1974.

15. A conference phone call among selected development sites should be used to collect data at least midway in the field site effort. The four respondents should be made aware of the agenda in advance and be prepared to discuss the questions.

16. The handbook should value the consumer of the career education product in a high priority way. The handbook should indicate a belief that the teacher (or student) can subvert the intent of product installation if they do not believe in it.

17. The word "power" or "change" should not be used in the handbook. Rather the words "improvement" and "legitimization" should be used.

SUMMARY OF THE MAY 9, 1974 MEETING WITH RALPH WILEMAN

Ralph Wileman spent May 9, 1974 consulting with program staff on the question of the Career Education Product Installation Handbook format and design. Several fundamental considerations were confirmed:

1. The handbook should be a "how-to-do-it" book for diffusion agents faced with the action to take in a specific setting.

2. We recognized the problem of users' varying levels of expertise and skill in making judgments about the career education product and the audience for whom the product is intended. Therefore, a section with a narrative is planned which will describe the use of specific tactics in specific situations. This should have the effect of humanizing the checklists which are necessary to assure consideration of relevant variables.

3. The handbook format should allow users with varying degrees of experience to use the handbook equally well, e.g., each section should be written in a somewhat self-contained manner. However, the sections will be written at different levels of sophistication, thus, allowing the user to refer to examples or other information which explains concepts in the handbook.

4. The handbook should contain a list of definitions including terms such as "installation," "product," etc.

5. The handbook should be active not passive. That is, it should allow the user to formulate strategies. This suggests the use of looseleaf pages which can be resupplied. A planning sheet should be provided for each step.

6. A fold out could be used to keep the "model" for formulating strategies in the mind of the user. This schema also could be used for indexing the handbook.

7. The index of the handbook should allow the user to classify his problem quickly and easily and find information which will aid in formulating actions to resolve the discrepancy. It is likely the handbook will contain more information than any one individual in a given situation would use. This is why the index is so important.

8. The index should contain referent words for users' problems. This means a narrative or other section of the handbook would contain multiple descriptors for reference.

9. Rationale: The handbook should bring the user to "an increased level of consciousness." This will help him (or her) speed up the decision-making process for more efficient use of the handbook in the future.

10. The situational problems should contain "classic" kinds of problems frequently encountered in the implementation of products. (Program staff should draw on past research activities and field application records for these experiences.)

11. It is anticipated the handbook will be used both as a guide for planning future strategies and a tool for analyzing past mistakes and successes. This suggests the need for carefully designed worksheets which will leave a clear record of actions taken.

12. Each alternative tactic or strategy should be associated with a discussion of the enabling resources required for the tactic to be implemented.

13. The discussion of tactic consequences could be stated as "if, then, hypotheses."

14. Display materials in the handbook by (1) keeping the model in front of people, (2) coding the model to sections of the handbook, and (3) keeping a process orientation.

General conscience was achieved among participants (Budke, Howard, Hull and Kestem) in the day's discussion on the following major sections of the handbook:

I. Introduction

- An overview of the handbook

- A discussion of the model

II. Planning a Strategy

- This is the heart of the document, containing checklists and descriptions of innovation characteristics, client situations, advocate position descriptions, ard installation tactics.

III. Implementation of the Strategy

- This section of the handbook will allow the user to concretize the strategy with dates, identification of individuals, and other events which will allow tangible assessment of pmogress.

- A record of progress and unanticipated problems will be contained in this section.

IV. Assessing the Impact of the Strategy

- The questions and checklists in this section will be designed to answer the question of why were the tactics effective or not effective.

- Intervening variables not anticipated will be noted (from the records section of the handbook).

Appendices

A. A Typology of Situational Problems

- This section would index constraints in situations which would need to be taken into account in the formulation of a diffusion strategy.

- Rather prescriptive alternative tactics would need to be listed by each constraint.

B. Career Education Discussion

- Without defining the concept in discrete terms, this section should discuss those characteristics which call for unique consideration in the implementation of products.

C. Reference for Assessment Tools

2. SUMMARY OF THE July 8, 1974 MEETING WITH THE REVISION COMMITTEE

Committee members were enthusiastic about the prospect of a career education implementation handbook being developed. They cited instances where such a handbook would be useful, e.g. helping project directors in Florida conform to a legal mandate to install career education in public schools by June 1977, assisting second generation project directors in designing a program of career education, etc. One state represented is developing a project director's handbook.

1. Target Audience. The committee members reminded the developers that the responsibility for implementing and installing career education materials rests with local personnel. State level staff can provide an array of possible options to local staff for examination and awareness but state persons do not recommend or advocate products. Personnel in State Education Agencies should be used to disseminate and explain the handbook to local project planners; state directors have a significant role providing technical assistance to local project directors. Local personnel must select and implement the materials; it is this audience which should be addressed by the handbook. It was the opinion of the revision committee that the handbook would be most useful to second generation project directors: those individuals who were just starting career education programs.

The target audience should not be identified by title. For example, many of the project directors in local education agencies have many responsibilities. This title, project director, contains many different connotations depending on the size of the LEA and other extenuating circumstances. The committee recommended a functional title like project planner or facilitator be given to the target audience. This would allow many different pemsons in the organizational hierarchy to identify with the mission of the handbook.

2. Scope of Work. Clearly, the local project directors on the revision committee felt a need for information on how to initiate and organize a project. This "felt need" extended into the arena of product development activities. The handbook may have to address this concern (in the introduction section) from the viewpoint of the installation strategy to be devised; but, the handbook should limit its primary focus to the installation of career education products.

3. Organization of the Handbook. A rationale for each section should precede the checklist. The rationale should indicate why it is important to consider the variables listed in the checklist when formulating an installation strategy. The committee endorsed the checklist as a means of providing a quick overview of variables in the major domain. The narrative following the checklist should include a discussion of each variable.

The index should include labels which project directors and other "facilitators" can relate to such as Inservice Education of Teachers, Evaluation, the use of Advisory Committees, etc.

4.1 Content of the Handbook. The handbook should contain a section which allows the user to note important antecedent conditions which would tend to facilitate or inhibit the installation of a career education product.

4.2 The handbook should contain a section which suggests to the user sources of information for tasks not covered by the handbook. For example, the user may be referred to the RUPS package for use in stating a problem situation.

4.14 A section of the handbook should address the organization of the staff. Perhaps ways of organizing staff could be suggested as illustrations of ways of establishing credibility, efficiency, etc. The use of differentiated staffing could be suggested.

4.15 The need for commitment from the Superintendent should be stressed. His or her involvement should be limited to policy matters and legal concerns. Tactics should be suggested which will communicate the authority of his office.

4.16 The manual should be limited to the installation of products only.

4.17 Emphasize adaptation rather than adoption of materials.

4.18 The checklists may relate to antecedent conditions as a tool in diagnosing situations for prescribing tactics.

4.19 The tactics should provide several options for local project directors.

4.20 The handbook should have a strongly rational tone.

4.21 It should be written in conversational style.

4.22 The publication should be open, simple, brief, consider using cartoons, etc.

4.23 The handbook should assume the readers will have some program planning experience; nevertheless, the elements should be listed as a reminder.

4.24 An unintended outcome of the handbook may be its use (to researchers) as a tool for analyzing the process of installing products in field sites (including the comparison of R&D studies).

4.25 Handbook users need lists of alternatives (in the tactic selection section) for dealing with the situation (resolving the perceived problem).

4.26 The index must be clear, easy to use.

4.27 "Pet" terms must be eliminated.

4.28 Theoretical concepts must be scaled down to common language.

4.29 The overall mission of the handbook is "how to do it," but users must understand reasons why the use of certain concepts are important in order to select the appropriate tactic.

4.30 The cookbook format is alright.

5.0 Terminology. The revision committee indicated the terms "product" and "advocate" had negative connotations. Also the handbook should include a glossary of terms.

6. Suggestions for Revision in the Evaluation Instruments

6.1 Include a tear sheet in various locations throughout the handbook and request it be mailed to the product developers. This worksheet could deal with incidents which are influencing installation activities.

6.2 The stage of development of the project should be included on the background information questionnaire.

6.3 The "users of the product" question should be written in more of an open-ended fashion.

6.4 The "Critical Incidents Report" should be incorporated into the "implementations section" of the handbook. The incidents should be positive as well as negative.

6.5 The Formative Evaluation Questions should be limited to 5 or 6 which can be asked for each major section of the handbook. For the most part, summative types of questions should be left to the third party evaluation.

Minutes of the CEPIH Program Staff Meeting 7/10/74:

Reactions to the Revision Committee Recommendations

Persons Present: John Howard, Bill Hull, Ralph Kester

In general, the program staff agreed with most of the recommendations from the Revision Committee. However, the following exceptions should be noted:

1. The negative connotation for the words "product" and "advocate." We have been using these terms along with the term "installation" to denote a research and development frame of reference. We are certain that many local project staff persons prefer to talk about "program" rather than "product." And they prefer to discuss "adaptation" rather than "adoption." This tendency may be due to the scarcity of bona fide research and development products which are available for installation. Such a scarcity is regretable; but we have a responsibility to promote terminology which is consistent with our way of thinking. The terms "advocate" and "product" have a very technical meaning as they are used in the program. Our judgment is to continue to use such terms (as well as "installation") in the development of the handbook. The terms should be defined early in the handbook and references to these definitions may be included in later sections of the publication.

2. Interpretation of How to Do It Handbook. We have the feeling that the local career education project directors may have a different perception of the content for a "how to do it" handbook than the scope of work delineated for the CEPIH. The committee members want information on how to start a program and substantive information such as how to identify businesses as potential training centers. They do not seem to perceive the handbook as a tool for analyzing past mistakes and reformulating installation tactics. We remain convinced of the merit of a process approach to product installation. Illustrations of the substance of career education will be included in the handbook at appropriate places but the handbook will focus primarily on the process of installing products.

6/26/74

3. SUGGESTED GUIDELINES FOR NOMINATING LOCAL EDUCATION AGENCIES

1. The primary consideration in the nomination of school districts to participate in this program to develop a Career Education Product Installation Handbook is the availability of career education products to be installed on site during the 1974-75 school year.[1] A "product" is defined as a curriculum unit or guide which relates students to careers or a manual which capacitates an organization or agency to provide career education activities. In any event, the product should have a tangible outcome, something which can be observed. The product should have a relatively single focus (for example, the establishment of an office within the school to assist students in finding employment in business and industry); but the product should require its use for a specific period of time for example, the teaching of an instructional unit. The product should be ready for installation during September 1974. The product may be developed in-house, within the local school district, or transported to the district from a developing agency outside of the local education agency.

2. The career education project director in the nominated district should desire to participate in the program. His or her participation should be voluntary. Program demands upon the project directors will be minimal: two or three telephone conversations plus a questionnaire at the end of the six months use of the handbook. An orientation meeting of the project directors is planned in at least one state.

3. At least one female project director should be included among the sites nominated.

4. At least one regional service center should be included in the list of sites if this fits the organizational pattern of the state.

5. Most of the career education project directors should be from urban and suburban locations but at least one rural site should be represented.

6. Ethnic groups should be represented among the sites nominated from each state whenever possible.

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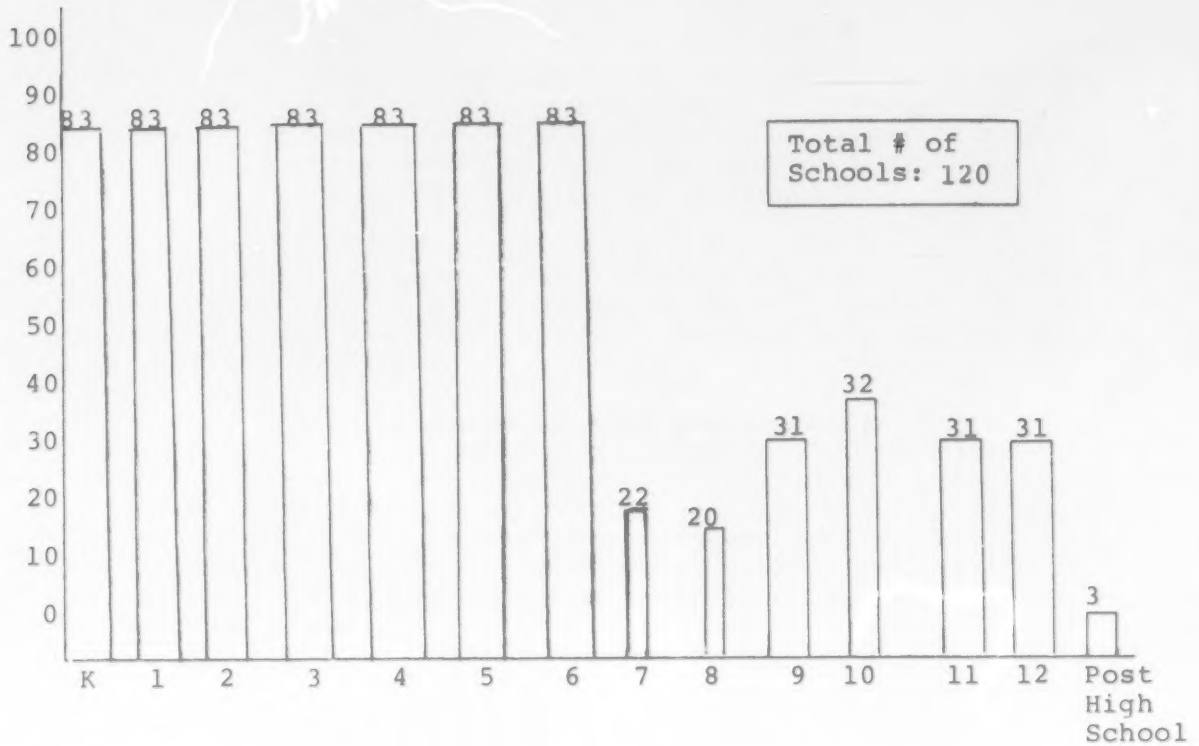
[1] We realize it will be difficult to identify valid and reliable products which are ready for use in a local school district setting. The task becomes one of selecting sites with the best available career education products. Feel free to phone Wm. Hull in Columbus, Ohio (614) 486-3655 if you have questions or need additional information.

APPENDIX D

FORMATIVE EVALUATION SETTINGS AND RESULTS

1. Characteristics of the Field Site Settings

a. Number of Schools Using Handbook by Grade



b. Types of School Districts by States

States	Urban	Suburban or Moderate Size	Small Rural Sites
TEXAS	Ft. Worth Dallas Austin	Sulphur Springs McKinney Sweetwater	Honey Grove Harlingen[1]
FLORIDA	Orlando Co. Pinellas Co. Broward Co.	Alachua Co. Sarasota Co. Leon Co.	Wakulla Co. Brevard Okaloosa[2]
OHIO	Lorain	Mansfield	Mad-River Green

[1] unique setting, spanish speaking people

[2] unique setting, air force base within the county

2. Results of the Formative Evaluation

Name_____

FORMATIVE EVALUATION QUESTIONNAIRE

Career Education Product Installation Handbook (CEPIH)

The CEPIH Formative Evaluation Questionnaire is designed to gather information for revising and improving the Handbook. Your comments and suggestions, in combination with those of others who are field testing the Handbook, will be used to revise the Handbook prior to its final evaluation and testing.

The information you provide will not be associated with your name in reporting the data. Your response will be used in the analysis of group data only. We appreciate and value your professional judgement and suggestions. Participation in this activity is voluntary.

There are three sections to this questionnaire. The first section concerns your perception of potential target audiences for CEPIH and appears on this page. The second section concerns your evaluation of each major section of CEPIH and appears on the following pages. The third section provides documentary information will be kept completely confidential. Please read the directions for each question and attempt to make your responses as accurate as possible.

Section I

This list represents specific groups of people that could potentially benefit from receiving CEPIH. Please check (✓) four (4) groups that you think could benefit most by receiving CEPIH.

5 1. Classroom Teachers

11 2. Curriculum Developers

3 3. Graduate Teacher Education Personnel

15 4. Local Supervisors

3 5. Researchers

17 6. School Administrators

4 7. State Department Administrators

8 8. State Department Consultants

5 9. State Department Supervisors

2 10. Teacher Education Chairmen

2 11. Undergraduate Teacher Education Personnel

____ 12. Other (specify) _____

Section II

To complete this question, you simply have to (1) check (✓) if you STRONGLY AGREE, AGREE, HAVE NO OPINION, DISAGREE, OR STRONGLY DISAGREE with each of the six statements for each of the four sections of the Handbook; and (2) add a short explanation of the problem or suggested change related to the appropriate statement and section.

STATEMENT	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	EXPLANATION OF PROBLEMS OR SUGGESTED CHANGES
1. The material included in each of the following sections was useful:						
a. Introduction	SA 5	A 12	N	D 1	SD	
b. Planning	SA 5	A 13	N	D 1	SD	
c. Implementation	SA 6	A 9	N 2	D 1	SD	
d. Assessing	SA 3	A 12	N 2	D 1	SD	
2. The information in each of the following sections was easy to find:						
a. Introduction	SA 4	A 12	N 1	D 1	SD	
b. Planning	SA 6	A 11	N 1	D	SD	
c. Implementation	SA 7	A 8	N 1	D 2	SD	
d. Assessing	SA 4	A 13	N 1	D	SD	

3. Serious biases (e.g., cultural, sexual, economic, etc.) have been eliminated from the materials in each of the following sections:		
a. Introduction	SA 6 A 9 N 1 D 1 SD	
b. Planning	SA 6 A 10 N 1 D SD	
c. Implementation	SA 6 A 10 N 1 D SD	
d. Assessing	SA 6 A 10 N 1 D SD	
4. The terminology used in each of the following sections was easily <u>understood</u>:		
a. Introduction	SA 2 A 12 N D 3 SD 1	
b. Planning	SA 2 A 12 N 1 D 1 SD 1	
c. Implementation	SA 2 A 13 N D 1 SD 1	
d. Assessing	SA 1 A 14 N D 1 SD 1	

5.	The organization of the material in each of the following sections was <u>meaningful</u>:		
	a. Introduction	SA A N D SD 7 11	
	b. Planning	SA A N D SD 7 10 1	
	c. Implementation	SA A N D SD 5 12 1	
	d. Assessing	SA A N D SD 4 14	
6.	The organization of each of the following sections <u>encouraged active planning of installation strategies</u>:		
	a. Introduction	SA A N D SD 3 11 3 1	
	b. Planning	SA A N D SD 4 10 2 1 1	
	c. Implementation	SA A N D SD 6 9 3	
	d. Assessing	SA A N D SD 3 13 1	